

What is Claimed is:

1           1.    A packet group for use in a trace stream, the  
2 packet group comprising:  
3           at least one header packet; and  
4           at least one packet subgroup, each packet having an  
5 extension portion and a payload portion, the number of  
6 packet subgroups determined by a field in the header  
7 packet, wherein the first packet in each packet subgroup  
8 includes a first extension portion, the packets following  
9 the first packet in subgroup that are a continuation of the  
10 first subgroup packet having a second extension.

11

12           2.    The packet group as recited in claim 1 wherein,  
13 when in the sequence of packets of the last subgroup of  
14 packets, the next sequential packet does not have the  
15 second extension, the packet group has ended.

16

17           3.    The packet group as recited in claim 2 wherein  
18 the next sequential packet begins a new packet group.

19

20           4.    The packet group as recited in claim 3 wherein  
21 for selected packet groups, a header is implied for new  
22 packet groups.

23

24           5.    The packet group as recited in claim 1 wherein,  
25 when the header is defined to have more than one packet,

1 the extension portions of the packets following the first  
2 packet can be used to convey information.

3

4 6. A processor test and debug system, the system  
5 comprising:

6 a host processing; and

7 a target processor, the target processor transmitting  
8 trace streams to the host processing unit, the trace  
9 streams permitting the host processing unit to reconstruct  
10 the operation of target processing unit, at least one trace  
11 stream being comprised of a sequence of packet groups, each  
12 packet group including:

13 at least one header packet; and

14 at least one packet subgroup, each packet having  
15 an extension portion and a payload portion, the number of  
16 packet subgroups determined by a field in the header  
17 packet, wherein the first packet in each packet subgroup  
18 includes a first extension portion, the packets following  
19 the first packet in subgroup that are a continuation of the  
20 first subgroup packet having a second extension.

21

22 7. The packet group as recited in claim 6 wherein,  
23 when in the sequence of packets of the last subgroup of  
24 packets, the next sequential packet does not have the  
25 second extension, the packet group has ended.

26

1       8.    The packet group as recited in claim 7 wherein  
2   the next sequential packet begins a new packet group.

3

4       9.    The method for transferring information from a  
5   target processor to a host processing unit in trace  
6   streams, the method comprising:

7       dividing the information into packet groups;

8       formatting each packet group to include at least one  
9   header packet; and

10      formatting the packet group to include at least one  
11   packet subgroup, each packet subgroup having an extension  
12   portion and a payload portion, the number of packet  
13   subgroups determined by a field in the header packet,  
14   wherein the first packet in each packet subgroup includes a  
15   first extension portion, the packets following the first  
16   packet in subgroup that are a continuation of the first  
17   subgroup packet having a second extension.

18

19      10.   The method as recited in claim 9 wherein, when in  
20   the sequence of packets of the last subgroup of packets the  
21   next sequential packet does not have the second extension,  
22   the packet group has ended.